

WHAT WE CLAIM IS:

1. Apparatus for forming three dimensional shaped products from particulate sphagnum moss material including:

a conveyor including a belt formed of a flexible and resiliently deformable material and arranged to carry on the belt of the conveyor the particulate material and arranged to move in steps,

means for continuously delivering particulate moss material onto the conveyor for conveying to a press forming stage and a spreader for spreading the particulate material to a substantially even thickness layer on the belt of the conveyor,

a press forming stage including a cavity die member positioned beneath the belt of the conveyor and including a shaped die cavity, and a co-operating die member positioned above the belt of the conveyor and arranged to move after each step forward of the conveyor which delivers fresh particulate moss material between the die members, to press the section of the belt of the conveyor between the die members and the particulate material thereon into the cavity die member, to form a shaped product,

the belt of the conveyor having sufficient resilience to lift the press formed product from the cavity die member after each operation of the press forming stage, and the conveyor being arranged to convey the formed products away from the press forming stage.

2. Apparatus according to claim 1 wherein the spreader comprises one or more longitudinal spreaders each arranged to move reciprocally across the conveyor before the press forming stage and rotate about a longitudinal axis of the spreader and carrying a number of spreader fingers.

3. Apparatus according to either one of claims 1 and 2 wherein the belt of the conveyor is formed from a synthetic fabric material.

4. Apparatus according to claim 3 wherein the synthetic fabric material is a woven or knitted synthetic material.

5. Apparatus according to claim 3 wherein the synthetic fabric material is a woven synthetic material.
6. Apparatus according to any one of claims 1 to 5 including means after the press forming stage for collecting and recycling unused particulate.
7. Apparatus according to any one of claims 1 to 6 including a subsequent packaging stage for shrink packaging each product or numbers of products together.
8. Apparatus according to any one of claims 1 to 7 wherein the die members are shaped to form products having a truncated approximately conical shape.
9. Apparatus according to claim 1 to 8 wherein the die members are shaped to form products which are wider than they are deep in a plane between in a closed base and an open top of the products.
10. Apparatus according to any one of claims 1 to 9 wherein the press forming stage comprises two or more pairs of die members for forming two or more products after each step forward of the conveyor which delivers fresh particulate material to the press forming stage.
11. Apparatus according to claim 10 wherein the die members are interchangeable between die members shaped to form smaller products and die members shaped to form products having a dimension greater across the width of the conveyor than in the direction of movement of the conveyor for forming products which are wider than they are deep in a plane between a closed base and an open top of the products.
12. Apparatus according to any one of claims 1 to 11 including a drying stage for kiln drying the particulate moss material before depositing on the conveyor for press forming into products.

13. Apparatus according to claim 12 including a rewetting stage for applying moisture to the particulate moss material to re-condition the moss material after drying but before press forming into products.

5 14. Apparatus according to any one of claims 1 to 13 including a subsequent packaging stage for packaging the products.

15. Apparatus according to any one of claims 1 to 13 including a stage arranged to apply moisture to the exterior of the products to at least partially reconstitute at least
10 part of the exterior of the products to a natural sphagnum moss appearance, after press forming and a subsequent packaging stage for packaging the products in packaging which minimizes moisture loss from the products.

16. Apparatus according to either one of claims 14 and 15 wherein said packaging
15 stage is arranged to heat shrink package the products in a plastic film material.

17. A method for forming three dimensional shaped products from particulate sphagnum moss material including:

20 spreading particulate material to a substantially even thickness layer on the belt of a conveyor,

carrying the particulate moss material to a press forming stage on a conveyor including a belt formed of a flexible and resiliently deformable material and arranged to move in steps, the press forming stage including a cavity die member positioned beneath the belt of the conveyor and including a shaped die cavity and a co-operating
25 die member positioned above the belt of the conveyor, to press the section of the belt of the conveyor between the die members and the particulate material thereon into the cavity die member to form a shaped product, and the belt of the conveyor having sufficient resilience to lift the press-formed product from the cavity die member after each operation of the press forming stage,

30 causing the conveyor to convey the formed products away from the press forming stage, and

after each operation of the press forming stage causing the conveyor to step on to deliver fresh particulate material between the die members.

18. A method according to claim 17 wherein the belt of the conveyor is formed from a synthetic fabric material.
- 5 19. A method according to claim 18 wherein the synthetic fabric material is a woven or knitted synthetic material.
20. A method according to claim 18 wherein the synthetic fabric material is a woven synthetic material.
- 10 21. A method according to any one of claims 17 to 20 including collecting and recycling unused particulate after the press forming stage.
- 15 22. A method according to any one of claims 17 to 21 including subsequently packaging each product or numbers of products together.
23. A method according to any one of claims 17 to 21 including applying moisture to the exterior of the products to at least partially reconstitute at least part of the exterior of the products to a natural sphagnum moss appearance after press forming, and
- 20 subsequently packaging the products and packaging which minimizes moisture loss from the products.
24. A method according to either one of claims 22 and 23 including heat shrink packaging the products in a plastics film material.
- 25 25. A method according to any one of claims 17 to 24 wherein the die members are shaped to form products having a truncated approximately conical shape.
26. A method according to claim 17 to 25 wherein the die members are shaped to
- 30 form products which are wider than they are deep in a plane between a closed base and an open top of the products.

27. A method according to any one of claims 17 to 26 including press forming two or more products after each step forward of the conveyor which delivers fresh particulate material to the press forming stage, by two or more pairs of die members at the press forming stage.

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28. A method according to claim 27 wherein the die members are interchangeable between die members shaped to form smaller products and die members shaped to form products having a dimension greater across the width of the conveyor than in the direction of movement of the conveyor for forming products which are wider than they are deep in a plane between a closed base and an open top of the products.

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29. A method according to any one of claims 17 to 28 including drying the particulate moss material before depositing on the conveyor for press forming into products.

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30. A method according to any one of claims 17 to 29 wherein the sphagnum moss is moss of any of the following species, alone or in combination: Sphagnum Falcatum; Sphagnum Subnitens; Sphagnum Cristatum; Sphagnum Australe; Sphagnum Subsecundum.

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31. A three dimensional shaped product produced by the method of any one of claims 17 to 30.

32. A three dimensional shaped product which is a plant container liner produced by the method of any one of claims 17 to 30.

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